

### **Listing of Claims:**

This listing of the claims will replace all prior versions, listings, of claims in the application:

1. (currently amended) An electrochemical cell, comprising:

a renewable active metal anode, configured for supplementation of the active metal, the anode comprising a first solid state lithium metal layer and a second solid state lithium metal layer and having a thin layer of Ag, Al, Sn or other Li alloy-forming metal interposed between the first and second lithium layers;

a cathode structure comprising an electronically conductive component, an ionically conductive component, and a fluid oxidant;

an ionically conductive protective membrane on the first surface of the anode, the membrane comprising,

one or more materials configured to provide a first surface chemically compatible with the active metal of the anode in contact with the anode, and a second surface substantially impervious to and chemically compatible with the cathode structure and in contact with the cathode structure

wherein the ionically conductive protective membrane comprises a composite, the composite comprising,

a first material component in contact with the anode that is ionically conductive and chemically compatible with the anode, the first material component comprising a composite reaction product selected from the group consisting of Li with  $\text{Cu}_3\text{N}$ , Li with red phosphorus and Li with  $\text{PbI}_2$ ; and

a second material component in contact with the first material component, the second material being substantially impervious, ionically conductive and chemically compatible with the first material component and the cathode structure.

2. (canceled)

3. (original) The cell of claim 1, wherein the ionic conductivity of the protective membrane is at least  $10^{-5}$  S/cm.

4. (withdrawn) The cell of claim 1, wherein the cathode oxidant comprises air.
5. (original) The cell of claim 1, wherein the cathode oxidant comprises water.
6. (withdrawn) The cell of claim 1, wherein the cathode oxidant comprises hydrogen peroxide.
7. (original) The cell of claim 1, wherein the protective membrane is a composite laminate.
8. (original) The cell of claim 1, wherein the protective membrane is a graded composite.
9. (previously presented) The cell of claim 1, wherein the solid state lithium metal layers of the anode are selected from the group consisting of lithium and a lithium alloy.
10. (canceled)
11. (canceled)
12. (currently amended) The cell of claim 1 2, wherein the second component comprises a material selected from the group consisting of glassy or amorphous metal ion conductors, ceramic active metal ion conductors, and glass-ceramic active metal ion conductors.
13. (currently amended) The cell of claim 1 2, wherein the second component is an ion conductive glass-ceramic having the following composition:

Composition	mol %
P <sub>2</sub> O <sub>5</sub>	26-55%
SiO <sub>2</sub>	0-15%
GeO <sub>2</sub> + TiO <sub>2</sub>	25-50%
in which GeO <sub>2</sub>	0—50%
TiO <sub>2</sub>	0—50%
ZrO <sub>2</sub>	0-10%
M <sub>2</sub> O <sub>3</sub>	0 < 10%
Al <sub>2</sub> O <sub>3</sub>	0-15%
Ga <sub>2</sub> O <sub>3</sub>	0-15%
Li <sub>2</sub> O	3-25%

and containing a predominant crystalline phase composed of  $\text{Li}_{1+x}(\text{M}, \text{Al}, \text{Ga})_x(\text{Ge}_{1-y}\text{Ti}_y)_{2-x}(\text{PO}_4)_3$  where  $X \leq 0.8$  and  $0 \leq Y \leq 1.0$ , and where M is an element selected from the group consisting of Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm and Yb and/or and  $\text{Li}_{1+x+y}\text{Q}_x\text{Ti}_{2-x}\text{Si}_y\text{P}_{3-y}\text{O}_{12}$  where  $0 < X \leq 0.4$  and  $0 < Y \leq 0.6$ , and where Q is Al or Ga.

14-20. (canceled)

21. (previously presented) The cell of claim 1, wherein the bonding coat is Ag.

22-23. (canceled)

24. (currently amended) The cell of claim 1, wherein the first material component comprises a composite reaction product of Li with  $\text{Cu}_3\text{N}$ .

25. (currently amended) The cell of claim 1, wherein the first material component comprises a composite reaction product of Li with red phosphorus.

26. (currently amended) The cell of claim 1, wherein the first material component comprising a composite reaction product of Li with  $\text{PbI}_2$ .